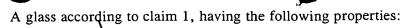
1. A glass comprising:

	1	
Oxide		Mole %
SiO <sub>2</sub>		35 - 75
GeO <sub>2</sub>		0-10
B <sub>2</sub> O <sub>3</sub>		0 - 8
Al <sub>2</sub> O <sub>3</sub>		0 - 8
Li <sub>2</sub> O		>0 - 25
Na <sub>2</sub> O	1	0 - 60
K <sub>2</sub> O		0 - 6
MgO		0 - 35
Σ BaO, SrO, CaO, ZnO, Pt	þ	0 – 10
TiO <sub>2</sub>		0 – 5
La <sub>2</sub> O <sub>3</sub>		0 - 30
RE <sub>2</sub> O <sub>3</sub>		0 - 12
Y <sub>2</sub> O <sub>3</sub>		>0 - 30
As <sub>2</sub> O <sub>3</sub>		0 - 0.5
F		0 - 5
Sum R <sub>2</sub> O <sub>3</sub> , R=Al, B, La and R	E	0 – 40

wherein RE represents rare earth ions, excluding La.



Property	Range
na	>1.5
T(%) at 1550 nm for 1.0 mm	>88
CTE	$\geq$ 90, especially $\geq$ 110
$(-30 \text{ to } + 70^{\circ}\text{C})$	
x 10 <sup>-7</sup> /°C	
E (GPa)	> 80
Tg (°C)	<u>&gt;</u> 350

3. A glass according to claim 1,

Oxide		Mole %
SiO <sub>2</sub>		40 – 70
GeO <sub>2</sub>		0-5
B <sub>2</sub> O <sub>3</sub>		0 – 5
Al <sub>2</sub> O <sub>3</sub>		0 - 5
Li <sub>2</sub> O		>0 - 25
Na <sub>2</sub> O		0 - 35
K <sub>2</sub> O		0 – 5
MgO		0 - 25
Σ BaO, SrO, CaO, ZnO,	PbO	0 - 5
TiO <sub>2</sub>		0 - 3
La <sub>2</sub> O <sub>3</sub>		0 – 12
RE <sub>2</sub> O <sub>3</sub>		0 - 10
Y <sub>2</sub> O <sub>3</sub>		>0 - 25
AS <sub>2</sub> O <sub>3</sub>		0 - 0.3
F		0 - 3
Sum R <sub>2</sub> O <sub>3</sub> , R=Al, B, La an	d RE	0 - 40

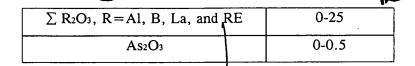


A glass according to claim 3, having the following properties:

1	
Property	Range
Nd	1.50 - 1.70, especially
	1.50 - 1.65
T(%) at 1550 nm for 1.0	>90
mm	
CTE	>100, especially $>110$
$(-30 \text{ to } + 70^{\circ}\text{C})$	·
x 10 <sup>-7</sup> / <sup>0</sup> C	•
Tg (°C)	<u>&gt;</u> 400
E [GPa]	>85

## 5. A glass comprising:

Mole %
40-60
0-10
0-10
0-4
>0-26
>0-26
0-15
0-15
0-10
0-9
0-2
0-4
0-4
>0-5
0-4
0-2
0-5



wherein RE represents rare earth ions, excluding La.

6. A glass according to claim 5, having the following properties:

Property	Range
Na	> 1.5
T(%) at 1550 nm for 1.0	
mm	> 88
CTE	
$(-30 \text{ to } +70^{\circ}\text{C})$	≥ 90
x 10 <sup>-7</sup> /°C	
E (GPa)	> 80
Tg (°C)	≥ 350

7. A glass according to claim 5 comprising:

Oxide		Mole %
SiO <sub>2</sub>		45-55
GeO <sub>2</sub>		0-5
B2O3		0-8
Al <sub>2</sub> O <sub>3</sub>		0-2
Li <sub>2</sub> O		>0-17
Na <sub>2</sub> O		>0-19
K <sub>2</sub> O		0-6
MgO		0-13
Σ BaO, SrO,CaO, ZnO,	PbO	0-5
TiO <sub>2</sub>		0-5
ZrO <sub>2</sub>		0-1
La <sub>2</sub> O <sub>3</sub>		0-3
RE <sub>2</sub> O <sub>3</sub>		0-3

<del></del>		` <del>,</del>
Y <sub>2</sub> O <sub>3</sub>		>0-4.5
Sc <sub>2</sub> O <sub>3</sub>		0-3
Nb <sub>2</sub> O <sub>5</sub>		0-1
·F		0-3
$\sum$ R <sub>2</sub> O <sub>3</sub> , R=Al, B, L <sub>3</sub>	, and RE	0-15
As <sub>2</sub> O <sub>3</sub>		0-0.3

8. A glass according to claim 7, having the following properties:

Property	Range
Πd	1.50-1.70
T(%) at 1550 nm for 1.0	
mm	> 90
CTE	
(-30 to +70°C)	≥ 100
x 10 <sup>-7</sup> / <sup>0</sup> C	
Tg (°C)	≥ 400
E [GPa]	> 85

9. A glass comprising:

Oxide		Mole %
SiO <sub>2</sub>		45.0-58.0
B <sub>2</sub> O <sub>3</sub>		0.0-5.0
A12O3		0.0-3.0
Li20		6.5-16.5
Na <sub>2</sub> O	·	7.0-24.0
K <sub>2</sub> O		0.0-12.0
MgO		0.0-8.0
CaO		0.8-0

1	
SrO	0.0-8.0
BaO	0.0-8.0
· TiO <sub>2</sub>	0.0-12.0
ZrO <sub>2</sub>	0.5-5.5
Ta <sub>2</sub> O <sub>5</sub>	0.0-1.0
Gd <sub>2</sub> O <sub>3</sub> +La <sub>2</sub> O <sub>3</sub> +Y <sub>2</sub> O <sub>3</sub>	2.70-3.30
AS2O3	0.0-0.15

wherein RE represents rare earth ions, excluding La.

10. A glass according to claim 9, having the following properties:

Property	Range
<b>n</b> d	>1.5
T(%) at 1550 nm for 1.	>88
mm	
CTE	<u>&gt;90</u>
$(-30 \text{ to } +70^{\circ}\text{C})$	
x 10 <sup>-7</sup> / <sup>0</sup> C	
E (GPa)	>80
Tg (°C)	400-485

11. A glass according to claim 9, comprising:

Oxide	Mole %
SiO <sub>2</sub>	46.0-52.0
Al <sub>2</sub> O <sub>3</sub>	0.0-1.5
B <sub>2</sub> O <sub>3</sub>	0.0-1.0
Li <sub>2</sub> O	7.0-16.0
Na <sub>2</sub> O	7.0-20.0
K <sub>2</sub> O	4.0-12.0
MgO	0.0-7.5
CaO	0.0-7.5
SrO	0.0-7.5
BaO	0.0-7.5
TiO <sub>2</sub>	1.0-10.5
ZrO <sub>2</sub>	1.5-5.0
Ta2O <sub>5</sub>	0.3-0.7
La <sub>2</sub> O <sub>3</sub> + Gd <sub>2</sub> O <sub>3</sub> +Y <sub>2</sub> O <sub>3</sub>	2.6-2.9
As <sub>2</sub> O <sub>3</sub>	0.0-0.15

12. A glass according to claim 11, having the following properties:

Range
1.50 - 1.70
>88
>100
415-480
>80

- 13. An interference filter comprising a glass substrate having at least two interference layers coated thereon, wherein the glass substrate is a glass according to claim 1.
- 14. An interference filter comprising a glass substrate having at least two interference layers coated thereon, wherein the glass substrate is a glass according to claim 5.
- 15. An interference filter comprising a glass substrate having at least two interference layers coated thereon, wherein the glass substrate is a glass according to claim 9.
- 16. A fiber optic system comprising a light source, a fiber optic transmission component, a receiver of transmitted radiation and an interference filter comprising a glass substrate having at least two interference layers coated thereon, said glass substrate comprising a glass according to claim 1.
- 17. A fiber optic system comprising a light source, a fiber optic transmission component, a receiver of transmitted radiation and an interference filter

comprising a glass substrate having at least two interference layers coated thereon, said glass substrate comprising a glass according to claim 5.

- 18. A fiber optic system comprising a light source, a fiber optic transmission component, a receiver of transmitted radiation and an interference filter comprising a glass substrate having at least two interference layers coated thereon, said glass substrate comprising a glass according to claim 9.
- 19. A process for making a glass according to claim 1, comprising melting raw materials corresponding to oxides in the glass, refining a resultant glass melt, casting the melt in a mold and optionally annealing.
- 20. A process for making a glass according to claim 1, comprising casting into a mold a glass melt produced from raw materials corresponding to oxides in the glass.
- 21. A process for making a glass according to claim 5, comprising casting into a mold a glass melt produced from raw materials corresponding to oxides in the glass.
- 22. A process for making a glass according to claim 9, comprising casting into a mold a glass melt produced from raw materials corresponding to oxides in the glass.
- 23. A demultiplexing optical component comprising the interference filter of claim 13.
- 24. A demultiplexing optical component comprising the interference filter of claim 14.
- 25. A demultiplexing optical component comprising the interference filter of claim 15.

- 26. A method of demultiplexing, comprising passing an optical signal of multiple wavelengths through a demultiplexing optical component according to claim 23.
- 27. A method of demultiplexing, comprising passing an optical signal of multiple wavelengths through a demultiplexing optical component according to claim 24.
- 28. A method of demultiplexing, comprising passing an optical signal of multiple wavelengths through a demultiplexing optical component according to claim 25.